

Date: Monday, 18/08/2008 10:20:35 AM  
 User: Julie Lecocq

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : FWD X-TUBE EXTENDED HEIGHT GEAR (-011)
<b>Job Number</b> : 41263	
<b>Estimate Number</b> : 10007	
<b>P.O. Number</b> :	<b>Part Number</b> : D205596101
<b>This Issue</b> : 18/08/2008 <b>S.O. No.</b> :	<b>Drawing Number</b> : D205-596-101
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : / / <b>Type</b> : CROSSTUBES	<b>Drawing Revision</b> : B
<b>Previous Run</b> : 41262	<b>Material</b> :
<b>Written By</b> :	<b>Due Date</b> : 29/08/2008 <b>Qty:</b> 1 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> : <i>JLD 08.8.18</i>	
<b>Comment</b> : Est Rev G Removed Bending 05-10-25 JLM Est Rev:H ECN 1075 08-01-10 DD Est Rev F 08.04.28 Added bending & mat'l EC verified by: DD	

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
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1.0	DC	DOCUMENT CONTROL
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*S 08/08/18*
**Comment:** DOCUMENT CONTROL

Photocopy D205-594 bluefile &amp; type labels per PPP D205-596-101 CHG002

2.0	D6005180	Crosstube Material
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**Comment:** Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Crosstube Material

Batch: *638345* *① M 8-8-19*

3.0	BENDING	BENDING MACHINE - SKIDTUBES
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**Comment:** BENDING MACHINE

Bend as per Dwg D2889 using CNC bender program

*DP 8-8-19*

4.0	CROSSTUBES	CROSSTUBES RESOURCE 1
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**Comment:** LANDING GEAR RESOURCE 1

Mark 31.53" for cutting from tangential line in the straight section from D2889 as per Dwg wall template.

\*\*\*Identify off-cuts with batch number &amp; part number and bring them to cnc lathe\*\*\*

*DP 8-8-19*

5.0	QC15	DIMENSIONAL CHECK OF X-TUBES
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**Comment:** DIMENSIONAL CHECK OF X-TUBES
*08.08.21/①*

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 18/08/2008 10:20:35 AM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD X-TUBE EXTENDED HEIGHT GEAR (-011)

Job Number: 41263

Part Number: D205596101

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

CROSSTUBES

CROSSTUBES RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Cut as per Dwg D205-596-101

1 7-8-21

2-Deburr & Inspect for surface damage. Polish cut surface. Scribe part # and end of tube.

Batch # on one - 8-5-21 <sup>AWM</sup>

7.0

QC15

DIMENSIONAL CHECK OF X-TUBES



Comment: DIMENSIONAL CHECK OF X-TUBES

5 08/08/21

8.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat per QSI 005 4.1

AWM 8-8-21

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

5 08/08/21

10.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

Prime inside and outside with Immron per QSI 005 4.2

ml 08 08 26 (1)

11.0

QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint

8T 08-08-27

12.0

D3595063450

RUBBER CUSHION



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

RUBBER CUSHION

batch 38500

ml 08 08 27

13.0

MS2192025

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Clamp(per MIL-DTL-8783C)

batch 108979

ml 08 08 27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 18/08/2008 10:20:35 AM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD X-TUBE EXTENDED HEIGHT GEAR (-011)

Job Number: 41263

Part Number: D205596101

Job Number:



Seq. #:

Machine Or Operation:

Description :

14.0

D28931

2.75 Support



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Support

Pick:

Qty Part number Description Batch

2 D2893-1 Support 40781

ml 08 08 27

15.0

CROSSTUBES

CROSSTUBES RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe

2- Apply magnobond 6398 as per dwg D205-596-101.

Magnobond 6398 Batch: 107621

EXP: 08:2005 time: 5:30pm

3 - install supports and clamps as per Dwg D205-596-101. Torque clamps to 80-100 in lb. as per dwg

ml 08 08 27 ①

ml 08 08 28 ①

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08 08 28 ①

17.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

08/08/28 ①

18.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D205-596-101

Location:

08/08/28 ①

19.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/08/29

Job Completion



08/08/29

B41263 D205-596-101

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

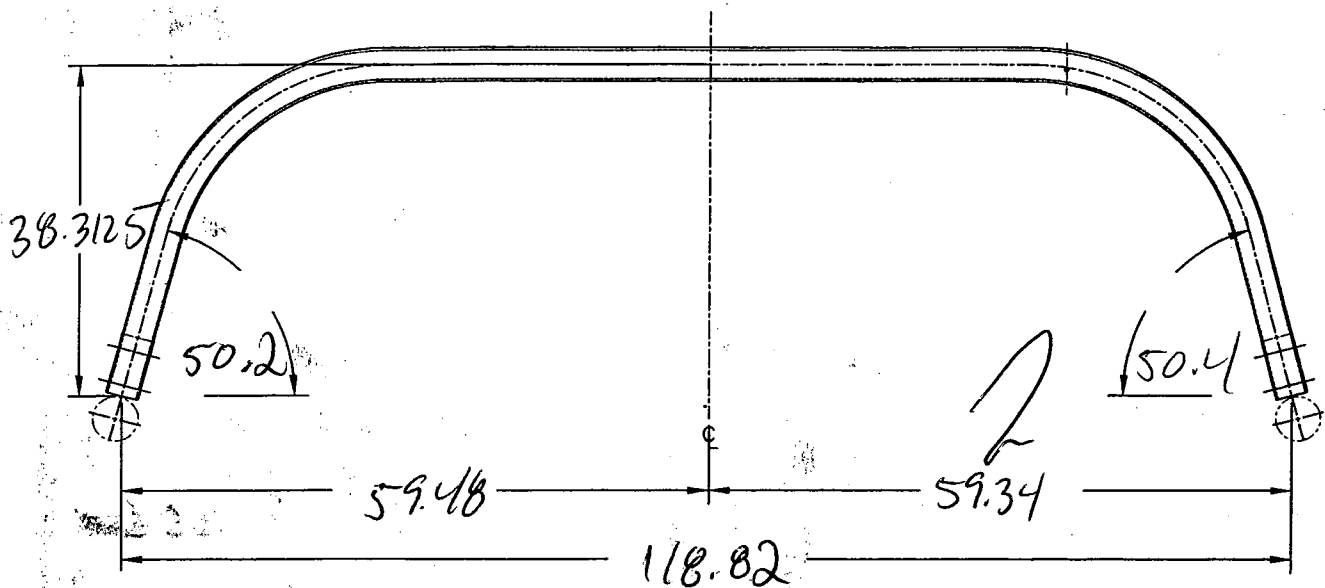
QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	41063
Description: Crosstube High-High Fwd		Part Number:	D205-596-101
Inspection Dwg: D205-596-101 Rev: B		Page 1 of 1	

Required Dimension	Min	Max
Height	38.2	38.4
1/2 Span	59.5	59.7
Angle	49	52
Total Span	119.0	119.4



Comments

QC15 Inspection	Q5142
Date	18-08-21

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	08.04.21	Dwg Rev updated	KJ/JM	

**PARTS LIST:**

Qty	Part Number	Description
X	D205-596-101	CROSSTUBE ASSEMBLY, HI-HI FWD
1	D6005-180	CROSSTUBE
2	D2893-1	SUPPORT
4	D3595-063-450	RUBBER CUSHION
4	MS21920-25	CLAMP
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

**GENERAL NOTES:**

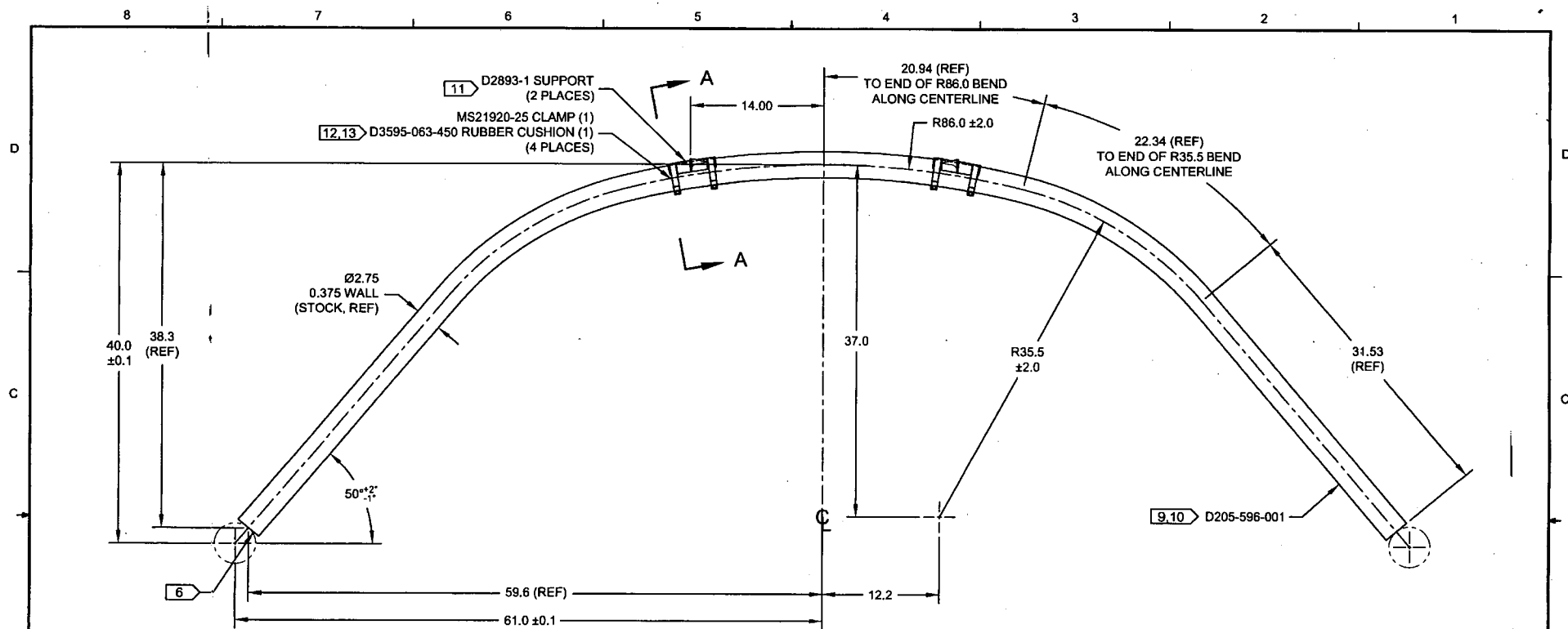
- 1) MATERIAL: MANUFACTURE FROM D6005-180  
FINISHED LENGTH =  $149.60 \pm 0.02$
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART 005 4.2
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS
- 7) WEIGHT: 44 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE
- 9) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) APPLY A 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 12) INSTALL MS21920-25 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE D2893-1 SUPPORT ON THE TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE CROSSTUBE SUPPORT.  
**NOTE: IT IS ACCEPTABLE TO SUBSTITUTE MS21920-25 CLAMPS WITH LONGER (MS21920-26) OR SHORTER (MS21920-24) CLAMPS TO ACCOMMODATE VARYING DIAMETERS. ENSURE THERE IS A MINIMUM OF 1.5 THREADS IN SAFETY ON THE NUTS.**
- 13) TORQUE CLAMPS 80 TO 100 IN-LB

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SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER

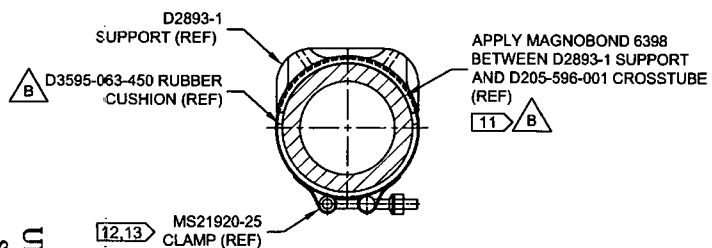
RELEASED NO. 41263  
07-01-16 W

B	SUPPORT NOW MAGNOBONDED; REMOVE D2856-600-851 ABRASION STRIP; UPDATED NOTES; ADDED D3595-063-450 CUSHION; MS21920-25 WAS MS21920-24	MB	07.12.03
A	NEW ISSUE	DS	02.05.27
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>[Signature]</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>[Signature]</i>	DRAWING NO. REV. B D205-596-101 SHEET 1 OF 2	
CHECKED	<i>[Signature]</i>	TITLE SCALE CROSSTUBE ASSEMBLY, HI-HI FWD NTS	
MFG. APPR.	<i>[Signature]</i>	COPYRIGHT © 2002 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
APPROVED	<i>[Signature]</i>		
DE APPR.	<i>[Signature]</i>		
DATE	07.12.03		










**D205-596-101 CROSSTUBE ASSEMBLY, HI-HI FWD**



**SECTION A-A**  
SCALE 2:5

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WITHOUT NOTICE  
WORK ORDER  
NO. 41263

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D205-596-101	SHEET 2 OF 2
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE ASSEMBLY, HI-HI FWD	1:10
DATE	07.12.03	COPYRIGHT © 2002 BY DART AEROSPACE LTD	
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Date: Monday, 18/08/2008 11:42:00 AM  
User: Julie Lecocq

Process Sheet

REFERENCE ONLY

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : FWD X-TUBE EXTENDED HEIGHT GEAR (-011)  
Job Number : 41263  
Estimate Number : 10007  
P.O. Number : Part Number : D205596101  
This Issue : 18/08/2008 S.O. No. : Drawing Number : D205-596-101  
Prsht Rev. : NC Project Number : N/A  
First Issue : 18/08/2008 Type : CROSSTUBES Drawing Revision : B  
Previous Run : 41262 Material :  
Written By : Due Date : 29/08/2008 Qty: 1 Um: Each  
Checked & Approved By :  
Comment : Est Rev G Removed Bending 05-10-25 JLM  
Est Rev:H ECN 1075 08-01-10 DD  
Est Rev F 08.04.28 Added bending & mat'l EC  
verified by: DD

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 DC DOCUMENT CONTROL



*JD 08-8-26*



Comment: DOCUMENT CONTROL  
Photocopy D205-594 bluefile & type labels per PPP D205-596-101 CHG002

2.0 D6005180 Crosstube Material



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
Crosstube Material  
Batch: \_\_\_\_\_

3.0 BENDING BENDING MACHINE - SKIDTUBES



Comment: BENDING MACHINE

Bend as per Dwg D2889 using CNC bender program

Job Completion

